

Appl. No. 10/699,343
Reply to Office Action of October 13, 2005

REMARKS/ARGUMENTS

Claims 1 and 14 are amended to reflect the ratio of micro particles to binder as described in the specification at the end of page 19 as the preferred range (see explanation on page 20).

Regarding the ratio of fillers to hydrophilic binder the Examiner states that "Wheeler does not disclose the claimed particle size of the fillers and the ration of fillers to hydrophilic binder. The experimental modification of this prior art in order to ascertain optimum operating conditions which is known to be result-effective, are unexpectedly good. *In re Boesch and Blaney.*"

The reason why Wheeler does not disclose the ratio is that Wheeler originally discloses a swelling type medium not a porous type medium. This can be seen from the composition (e.g. page 3, first paragraph) which includes water-soluble cellulose as well as a water soluble vinyl polymer and an acrylic or methacrylic polymer. Therefore, even if one of ordinary skill in the art intends to ascertain optimum operating conditions, such optimization is for a different type of media and it is not

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obvious to come up with the claimed invention from the technical field of Wheeler which is the swelling type medium.

Furthermore Wheeler does not disclose the inclusion of a hydrophilic binder containing a polymer compound crosslinked via irradiation of ionizing radiation. Wheeler also has no need for such a cross-linked polymer which allows for forming a uniform porous layer to produce a high void ratio having higher ink-absorbability and higher resistance to creases and cracks of film by a smaller amount of the binder (i.e. a weight ratio of the micro particles of silica to the binder in the porous layer is increased).

The claims are amended so that the weight ratio of the micro particles of silica to the hydrophilic binder in the porous layer is the preferred ratio range described in the specification pages 19-20. Wheeler does not disclose this ratio or suggest its importance in the context of the present invention. As discussed above, optimizing Wheeler does not lead one to the present invention since Wheeler refers to a different type of media.

Furthermore, although the Examiner reasons on page 3 that "a hydrophilic polyvinyl alcohol polymer compound photocrosslinked though side chains,..." is disclosed in Wheeler. However, with

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respect to the cross-linked polymer, Wheeler does not disclose the cross-linked polymer in the recording sheet. Wheeler discloses that UV radiation is irradiated on the medium, is done after printing so as to fix the ink and coating (see page 4, lines 26 to 28). That is to say, Wheeler does not disclose that porous layer comprises the cross-linked polymer before the porous layer has received the ink. The present invention requires that the ink-accepting porous layer of the recording sheet contain the cross-linked polymer. Wheeler (page 4, lines 25-30) applies the ink to the layer containing the polymer and thereafter exposes the layer to actinic radiation to render the layer more durable and less receptive to water. Thus, if Wheeler contains cross-linked polymers, the layer no longer meets the claimed requirement of "an ink accepting porous layer."

The secondary art combined with Wheeler are cited for secondary features and do not provide the missing teaching. Therefore, even if they are properly combined, they do not render the presently claimed invention obvious. Also, just because they may prepare an ink-jet sheet, does not render these combinations obvious. The sheets are balanced to give good results and one cannot take features from one to another as an obvious expedient.

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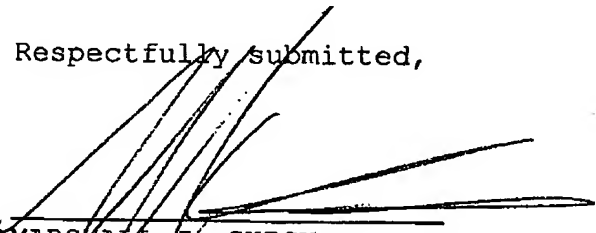
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In view of the above, it is not obvious for one of ordinary skill in the art to reach the claimed inventions even if he or she combines the references of Wheeler et al and the others because the references do not disclose the weight ratio. Furthermore the references do not disclose the unexpected results above mentioned.

In view of the above, it is submitted that the present invention is not shown or suggested by the cited art. Withdrawal of the rejections and allowance of the application are respectfully requested.

Frishauf, Holtz, Goodman
& Chick, P.C.
220 Fifth Ave., 16th Floor
New York, NY 10001-7708
Tel. No. (212) 319-4900
Fax No.: (212) 319-5101
MJC/lid

Respectfully submitted,



MARSHALL J. CHICK
Reg. No. 26,853